REMARKS

The Examiner is thanked for his/her careful and very thorough Office Action. The Examiner is particularly thanked for the helpful suggestions regarding correction of the alleged informalities. All rejections are traversed. Favorable reconsideration of the claims is respectfully requested.

1. With respect to claim 1, the cited reference fails to teach or suggest "a plurality of remote loads, each remote load located in a loop connected to the power converter," as claimed.

Claim 1 is reproduced for purposes of discussion.

> 1. An apparatus for sensing remote load voltages, comprising: a power converter;
> a plurality of remote loads, each remote load located in a loop connected to the power converter; and
> a feed back loop connected to the power converter, the feed back loop being physically adjacent to the power converter, wherein the feed back loop further comprises a first path and a second path, and the first path and the second path are in parallel.

In rejecting claim 1, Examiner cites Sashida, stating in part,

> Sashida teaches connecting a remote load (4) to a loop (11) to a power converter (100)....Sashida fails to teach a plurality of remote loads.... It would have been obvious to one or ordinary skill in the art at the time the invention was made to add more loads to the output circuit since it has been held that mere duplication of the essential working parts of a device has no patentable significance unless a new and unexpected result is produced.

Applicant respectfully submits that, even if Sashida teaches what Examiner suggests, such teaching does not fulfill the limitations of claim 1. Claim 1 claims a plurality of remote loads, each located in a loop connected to the power converter. Applicant respectfully disagrees that this distinction is of no merit.

For example, in the present application, the plurality of remote loads is discussed:

> Furthermore, when remote sensing is not at the power converter's terminals, the terminals of the power converter can swing wildly in response to the remote load demands. If other loads were connected to the same converter, but not as far away as the remote sensing, these loads could suffer from over-voltage excursions or even continuous over-voltage conditions due to the sensing at the farthest remote load (this is called a multiple load problem.) And even worse, due to the delay and phase shift of the transmission lines in the complete circuit, the converter can become unstable due to inadequate overall feedback phase margin.

[Paragraph 8]

The difference between a single load and a plurality of loads presents a specific problem that is recognized in the art, because the added loads (after the first load) create sensing issues for the control circuit, presenting problems that only arise in the multiple load case, as described above. The present application attempts to deal with these specific, multiple load issues, whereas Sashida does not address them because it teaches a circuit designed only for a single load.

Hence, by only suggesting that the art shows one load in the given context, Examiner has not made out a prima facie case against the present claim 1. By not showing the plurality of loads, the suggested teaching of Sashida fails to address the "multiple load problem." Hence, the showing of

only one load as opposed to the claimed plurality of loads fails to teach or suggest all limitations of claim 1. All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994).

Therefore, at least claim 1 is believed distinguished from the cited reference. Further, the arguments presented in favor of claim 1 are also believed to apply to claim 9.

2. With respect to claim 6, the cited references fail to show the 'weighted average individual loop gains," as claimed.

Claim 6 is reproduced for purposes of discussion:

> 6. The apparatus of claim 5, wherein the error amplifier has a gain defined by Gav= (N * Ka) * (weighted average individual loop gains) wherein,
>
> Gav is the average gain of the error amplifier,
>
> N is the number of loops, and
>
> Ka is a constant gain adjustment factor

In rejecting claim 6, Examiner again cites Sashida, stating in part:

> Sashida fails to teach...the exact gain specified in claim 6.... It would also have been obvious to one or ordinary skill in the art at the time of the invention to adjust the gain to an ideal value since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Applicant respectfully submits that (1) the exact gain taught in claim 6 is not a mere result-effective variable, but a relationship that has not been shown to exist in the prior art, and (2) use of optimized gain to account for the multiple load sensing issue has not been shown in the prior art as a result-

effective variable, *i.e.*, one that achieves a recognized result. Examiner has presented no citation or teaching to support the position taken by the Office.

The MPEP states at 2144.05 II.B:

> ***B. Only Result-Effective Variables Can Be Optimized***
>
> A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)

It is respectfully submitted that, absent some teaching in the art that (1) the claimed gain relationship was known in the prior art, and (2) that the use of optimized gain is a result-effective variable for the multiple-load problem at issue (notably, a problem not addressed by the cited reference since it does not address multiple loads), then the Examiner has failed to make out a prima facie case of obviousness against claim 6.

3. With respect to claim 8, the cited reference fails to teach the claimed limitation of, devised "impedance for a feed back loop according to a weighted factor for the feed back loop...."

Claim 8 is reproduced for purposes of discussion.

> 8. A method for sensing remote load voltages comprising the steps of:
>
> connecting a remote load to a loop to a power converter;
>
> devising an impedance for a feed back loop according to a weighted factor for the feed back loop; and
>
> connecting the feed back loop to the power converter, wherein the feed back loop is physically closer to the power converter than the

remote load.

In rejecting claim 8, Examiner states in part:

> He [Sashida] teaches devising an impedance (405a) for a feed back loop.

Applicant respectfully submits that the impedance taught in Sashida does not teach or suggest the claimed limitation of, "devising an impedance for a feed back loop according to a weighted factor for the feed back loop...." as claimed. [Emphasis added.]

Examiner makes no mention of this emphasized claim language, and only cites a typical impedance element. This claim language cannot be ignored in examination of the present application, as cited above.

Therefore, a prima facie case has not been made out against claim 8.

All independent claims are now believed distinguished from the cited references. And, by virtue of their dependence on allowable claims, all dependent claims are also now believed distinguished. Favorable reconsideration is respectfully requested.

Docket No. 18195.43

Conclusion

Thus, all grounds of rejection and/or objection are traversed or accommodated, and favorable reconsideration and allowance are respectfully requested. The Examiner is requested to telephone the undersigned attorney or Robert Groover for an interview to resolve any remaining issues.

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Respectfully submitted,

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